Practice: 558 - Roof Runoff Structure

Scenario: #1 - Roof Gutter

Scenario Description:

A roof runoff structure, consisting of gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313),Roofs and Covers (367), Composting Facility (317), Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

A gutter, downspout, and a separate outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 200 ft serviced with gutter, four downspouts, and appurtances. Use underground outlet or other associated practice to carry water beyond end of downspout.

Scenario Feature Measure: Linear Length of gutter and downspout

Scenario Unit: Linear Feet

Scenario Typical Size: 260

Scenario Cost: $2,397.08 **Scenario Cost/Unit:** $9.22

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$20.29	72	$1,460.88
Materials						
Downspout, Aluminum, Small	1700	Aluminum downspout (3" to 5") in width with hangers. Materials only.	Foot	$3.06	60	$183.60
Gutter, Aluminum, Small	1689	Aluminum gutter (4" to 6") in width with hangers. Materials only.	Foot	$2.81	200	$562.00
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$190.60	1	$190.60

Practice: 558 - Roof Runoff Structure

Scenario: #2 - Roof Gutter with Fascia

Scenario Description:

A roof runoff structure, consisting of gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317), Roofs and Covers (367),Heavy Use Area Protection (561), Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.

Before Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

A gutter, downspout, and a separate outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 200 ft serviced with gutter, four downspouts, and appurtances. New 2' x8" facia board needed for proper attachement . Use underground outlet or other associated practice to carry water beyond end of downspout. Payment based on measured length of installed gutters and downspouts.

Scenario Feature Measure: Linear Length of gutter w/fascia and downspout

Scenario Unit: Foot

Scenario Typical Size: 260

Scenario Cost: $3,367.31 **Scenario Cost/Unit:** $12.95

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$20.29	96	$1,947.84
Materials						
Dimension Lumber, untreated, rot resistant	1613	Untreated dimension lumber with nominal thickness equal or less than 2" milled from a rot resistant species such as cedar. Includes lumber and fasteners. Does not include labor.	Board Foot	$1.81	267	$483.27
Gutter, Aluminum, Small	1689	Aluminum gutter (4" to 6") in width with hangers. Materials only.	Foot	$2.81	200	$562.00
Downspout, Aluminum, Small	1700	Aluminum downspout (3" to 5") in width with hangers. Materials only.	Foot	$3.06	60	$183.60
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$190.60	1	$190.60

Practice: 558 - Roof Runoff Structure

Scenario: #4 - Trench Drain

Scenario Description:

A roof runoff structure, consisting of a trench filled with rock, with a polyethylene, corrugated, perforated drain tile installed in trench bottom. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Environmental/design considerations, for example – snow loads, or a building without proper structural support needed for gutters dictate the use of a trench drain. Facilitates waste management and protects the environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Associated practices include Waste Storage Facility (313), Composting Facility (317) ,Roofs and Covers (367), Heavy Use Area Protection (561), Underground Outlet (620), and Diversion (362).

Before Situation:

Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation:

A 2' deep by 3' wide by 200 long deep rock filled, tile drained trench. Trench system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. If discharge point needs to be elsewhere use additional applicable practice.

Scenario Feature Measure: Linear Length Drain

Scenario Unit: Linear Feet

Scenario Typical Size: 200

Scenario Cost: $2,573.74 **Scenario Cost/Unit:** $12.87

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	$2.30	44	$101.20
Geotextile, woven	42	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	$2.28	222	$506.16
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$20.29	6	$121.74
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$31.06	44	$1,366.64
Pipe, HDPE, 4", PCPT, Single Wall	1270	Pipe, Corrugated Plastic Tubing, Single Wall, Perforated, 4" diameter - ASTM F405. Material cost only.	Foot	$0.44	220	$96.80
Mobilization						
Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	$190.60	2	$381.20